

## **Irrigation Improvements in Tajikistan**

### **An Overview of USAID Activities in Central Asia**



### **Development Challenge**

Tajikistan is the least developed of the five Central Asian countries, with 80% of the population in poverty. The overwhelmingly rural population depends upon irrigated agriculture for its survival. Because of unfavorable economic conditions and limited public funding, irrigation systems have rapidly deteriorated to the extent that water supplies have been reduced by about 40%. Most major canals need urgent silt removal and reshaping to improve their hydraulic properties. Many canal banks are in poor condition and numerous water control structures do not work properly and need to be replaced. The areas dependent on pumped irrigation are most at risk where pumps and motors have reached the end of their working lives and pipelines have been badly damaged by corrosion. Unless effective rehabilitation measures are carried out soon, Tajikistan's Ministry of Land Reclamation and Water Resources estimates that over the next 10-15 years the country could lose a substantial portion of the land currently under cultivation.

Pump stations serve about 290,000 hectares out of the nationwide total of 720,000 irrigated hectares. In these schemes, pumping is the only option for irrigation water supplies to reach the fields. Over the past decade, the effectiveness of the pump stations has declined significantly, resulting in reduced supply of water and a decrease in crop yields. Pump stations are not working according to their installed or design capacities, and it is not uncommon to find only one pump in a set of four actually capable of supplying water. Many of these installations are in severe crisis; without immediate investment, some will collapse altogether with a serious impact on agriculture in those areas.

### **USAID's Response**

Improper management of water and energy in Central Asia has resulted in waste of these limited resources and increased the potential for conflict among users. USAID's water activities bring people together to solve common water problems and give them the tools they need to resolve issues and manage resources better. Funding for this program is provided by the U.S. Government through special supplemental assistance funding for Central Asia, in response to Tajikistan's support for U.S. foreign policy objectives.

USAID is striving to improve the management of Tajikistan's water resources. Two key factors were identified as essential: 1) trained, capable staff and 2) improved equipment and infrastructure. With the assistance of the Ministry of Land Reclamation and Water Resources, USAID drew up a priority list of pumping schemes that needed urgent attention. These were concentrated in the irrigated areas in the southwestern districts of the country, along the Amu Darya River and the border with Afghanistan. This region suffered greatly in the 1990s during Tajikistan's civil war.

USAID's program provided technical assistance and equipment to rehabilitate the first priority pump station, Iskra #1. Rehabilitation of this station has already been completed and will be able to serve the 2003 irrigation season. More pumps and motors are on order, and USAID has approved local contracts for the rehabilitation of additional pump stations,

as well. To compliment this work, USAID has installed computers in the ministry's headquarters and carried out intensive training programs to enhance the computer skills of ministry staff. Staff were trained to serve as trainers for others to ensure continuation of the computer training programs. USAID computer assistance will help the ministry to develop more accurate reporting, improve the analysis of water resources data, and allow better decision-making on flow management.

In the near future, radio communication systems will be installed to enable operators to effectively and efficiently manage water resources and coordinate operations of the pump stations. This communication system can be expanded as needed. At present, in some irrigation areas, the only means of communication is for a dispatcher to travel several kilometers by bicycle to give a verbal message, which is then relayed by radio.

## **Benefits**

The pump stations selected for rehabilitation serve a total of 20,000 hectares. The additional water made available from the rehabilitation of the selected pump stations will significantly enhance irrigation effectiveness. This is an important step toward increasing crop production and improving the well being of 60-70,000 people, all in areas that are dependent on irrigated agriculture. Greater reliability of water supply will help promote economic growth in this depressed region of Tajikistan.

Introduction of better water management practices and concepts through this activity will yield other benefits, as well. Improved communications capabilities will enable system operators to better calculate water requirements for specific crops and increase real-time knowledge of the water flowing through the system. This translates to more timely and efficient water deliveries, decreased pumping costs, and improved production at the farm level. Increased water use efficiency may also result in water savings that can be further used to place new areas under irrigation.

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### **Contact Information**

[http://www.usaid.gov/regions/europe\\_eurasia/car/index.html](http://www.usaid.gov/regions/europe_eurasia/car/index.html)

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